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(71) Applicant (for all designated States except US): **GLAXO-SMITHKLINE BIOLOGICALS S.A.** [BE/BE]; Rue de l'Institut 89, B-1330 Rixensart Brussels (BE).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **BERTHET, Francois-Xavier**, Jacques [FR/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **BIEMANS, Ralph** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **DENOEL, Philippe** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **FERON, Christiane** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart

Brussels (BE). **GORAJ, Karine** [BE/BE]; GlaxoSmithKline Biologicals S.A., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **POOLMAN, Jan** [NL/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE). **WEYNANTS, Vincent** [BE/BE]; GlaxoSmithKline Biologicals s.a., Rue de l'Institut 89, B-1330 Rixensart Brussels (BE).

(74) Agent: **STEPHEN, Robert**; GlaxoSmithKline, GSK House, 980 Great West Road, Brentford, Middlesex TW8 9EP (GB).

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For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: **NEISSERIAL VACCINE COMPOSITIONS COMPRISING A COMBINATION OF ANTIGENS**

(57) Abstract: The present invention relates to immunogenic compositions and vaccines for the treatment and prevention of Neisserial disease. Immunogenic compositions of the invention contain combinations of antigens selected from at least two different classes of antigens including adhesins, autotransporter proteins, toxins, iron acquisitions proteins and membrane-associated protein (preferably integral outer membrane protein)s. Such combinations of antigens are able to target the immune response against different aspects of the neisserial life cycle, resulting in a more effective immune response.



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INTERNATIONAL SEARCH REPORT

International Application No

PC 03/08571

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 A61K39/095

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 A61K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the International search (name of data base and, where practical, search terms used)

EPO-Internal, BIOSIS, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 01/09350 A (DALEMANS WILFRIED L J ; SMITHKLINE BEECHAM BIOLOG (BE); THIRY GEORG) 8 February 2001 (2001-02-08) cited in the application	1,2,5-7, 9,11-13, 16,20, 22,24, 46-61, 63-69, 71,72, 74-76
Y	abstract page 20, line 13 - line 22 page 25, line 11 - page 26, line 24 -/--	1,2, 5-16,20, 22-24, 27,28, 45-61, 63-69, 71,72, 74-76, 82-91

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

20 April 2004

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25. 05. 2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Noë, V

INTERNATIONAL SEARCH REPORT

International Application No.

PC 03/08571

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
	page 31, line 1 - line 22 page 33, line 1 -page 34, line 17 page 26, line 5 - line 32 example 8 claims 14-20,36,37 ---	
X	WO 00/71725 A (PIZZA MARIAGRAZIA ;RAPPUOLI RINO (IT); CHIRON SPA (IT); GIULIANI M) 30 November 2000 (2000-11-30) cited in the application	1-4, 11-13, 16,20, 22-24, 62-68, 70,76-81
Y	abstract	1-4, 11-16, 20, 22-24, 27,28, 62-68, 70,76-81
	page 1, line 26 - line 30 page 2, line 12 -page 3, line 1 page 54, line 27 -page 55, line 21 example 9 ---	
X	WO 00/25811 A (GORRINGE ANDREW RICHARD ;HUDSON MICHAEL JOHN (GB); MICROBIOLOGICAL) 11 May 2000 (2000-05-11)	1-3,20
Y	abstract	4-8,11, 12
	page 3, line 6 - line 19 page 7, line 5 -page 8, line 3 ---	
X	WO 01/52885 A (PIZZA MARIAGRAZIA ;RAPPUOLI RINO (IT); CHIRON SPA (IT); GIULIANI M) 26 July 2001 (2001-07-26)	1,2,5-8, 11-13, 16,20, 22-24
Y	abstract	1,2, 5-16,20, 22-24, 27,28, 45-49, 52-61, 63,64, 66,67, 71-73,76
	page 2, line 5 - line 24 page 8, line 24 -page 10, line 17 page 33, line 32 -page 35, line 22 claims 1,2,4-8 --- -/--	

INTERNATIONAL SEARCH REPORT

International Application No

PCT 03/08571

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>WO 98/02547 A (RUELLE JEAN LOUIS ;VINALS CARLA (BE); MAX PLANCK GESELLSCHAFT (DE)) 22 January 1998 (1998-01-22) cited in the application page 81 -page 90 claims 8,23,31</p> <p>---</p>	<p>1-5, 7-10,16, 45-81</p>
Y	<p>WO 99/31132 A (JENNINGS MICHAEL PAUL ;PEAK IAN RICHARD ANSELM (AU); UNIV QUEENSLA) 24 June 1999 (1999-06-24) cited in the application abstract page 2, line 28 -page 3, line 5 page 4, line 1 - line 6 page 7, line 10 - line 21 page 10, line 3 - line 15 page 29, line 9 -page 30, line 26 page 34, line 10 - line 17 page 37, line 7 - line 11 page 37, line 32 -page 38, line 11 page 39, line 22 - line 25</p> <p>---</p>	<p>1-15,24, 45-82,85</p>
Y	<p>WO 01/55182 A (UNIV QUEENSLAND) 2 August 2001 (2001-08-02) cited in the application abstract page 2, line 15 - line 31 page 3, line 7 - line 8 page 5, line 2 - line 4 page 6, line 5 - line 11 page 11, line 7 - line 16 page 22, line 27 - line 31 page 28, line 9 - line 11 page 32, line 6 - line 12 page 34, line 8 - line 17 page 35, line 1 - line 5 example 10</p> <p>---</p>	<p>1-15,24, 45-82,85</p>
Y	<p>WO 99/55873 A (SMITHKLINE BEECHAM BIOLOG ;THONNARD JOELLE (BE)) 4 November 1999 (1999-11-04) cited in the application abstract page 3, line 14 - line 21 page 4, line 1 - line 10 page 25, line 9 - line 24 page 26, line 9 - line 10 page 32, line 13 -page 33, line 14 page 35, line 4 - line 6 page 36, line 26 -page 37, line 7 page 39, line 1 - line 19 example 3 claims 17-19</p> <p>---</p>	<p>1-10,13, 23,45-81</p>

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INTERNATIONAL SEARCH REPORT

International Application No

PC 03/08571

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	JENNINGS H J ET AL: "CONJUGATION OF MENINGOCOCCAL LIPOPOLYSACCHARIDE R-TYPE OLIGOSACCHARIDES TO TETANUS TOXOID AS ROUTE TO A POTENTIAL VACCINE AGAINST GROUP B NEISSERIA MENINGITIDIS" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 43, no. 1, January 1984 (1984-01), pages 407-412, XP009000590 ISSN: 0019-9567 abstract page 407, column 1, paragraph 1 page 409, column 1, paragraph 2 -column 2, paragraph 2 page 412, column 1	1-10, 27, 28, 63, 64, 66, 67, 77, 78
Y	--- RUNE ANDERSEN S ET AL: "Lipopolysaccharide heterogeneity and escape mechanisms of Neisseria meningitidis: possible consequences for vaccine development" MICROBIAL PATHOGENESIS, ACADEMIC PRESS LIMITED, NEW YORK, NY, US, vol. 23, 1997, pages 139-155, XP002108656 ISSN: 0882-4010 abstract page 140, column 1, paragraph 1 - paragraph 4 page 149, column 2, paragraph 4 -page 150, column 1, paragraph 1	1, 2, 5-15, 28, 45-49, 52-61, 63-69, 71-76, 82-91
X	--- FREDRIKSEN J H ET AL: "PRODUCTION CHARACTERIZATION AND CONTROL OF MENB-VACCINE FOLKEHELSE AN OUTER MEMBRANE VESICLE VACCINE AGAINST GROUP B MENINGOCOCCAL DISEASE" NIPH (NATIONAL INSTITUTE OF PUBLIC HEALTH) ANNALS (OSLO), vol. 14, no. 2, 1991, pages 67-80, XP002948832 MEETING ON THE MENINGOCOCCAL SEROGROUP B VACCINE PROTECTION TRIAL IN NORWAY 1988-1991, OSLO, NORWAY, ISSN: 0332-5652	1, 2
Y	abstract page 68, paragraph 6 -page 69 page 72, last paragraph -page 75, paragraph 4; figures 2,3; tables 2,3	5, 6, 28
Y	--- GAO LIHUI HU XUJING ET AL: "Study on the LOS antigenicity of 2 candidate strains for meningococcal vaccine of serogroup B" BIOSIS, XP002133714 abstract	1-4, 15, 28
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INTERNATIONAL SEARCH REPORT

International Application No

PC 03/08571

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT		
Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>VERHEUL A F M ET AL: "PREPARATION, CHARACTERIZATION, AND IMMUNOGENICITY OF MENINGOCOCCAL IMMUNOTYPE L2 AND L3,7,9 PHOSPHOETHANOLAMINE GROUP-CONTAINING OLIGOSACCHARIDE-PROTEIN CONJUGATES" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 59, no. 3, 1 March 1991 (1991-03-01), pages 843-851, XP002032436 ISSN: 0019-9567 abstract page 844, column 2, last line page 845, column 1, paragraph 1 page 847, column 1, paragraph 2 -column 2, paragraph 3 page 850, column 2, last paragraph</p>	1-4, 27, 28, 50, 51, 61
A	<p>QUAKYI E K ET AL: "MODULATION OF THE BIOLOGICAL ACTIVITIES OF MENINGOCOCCAL ENDOTOXINS BY ASSOCIATION WITH OUTER MEMBRANE PROTEINS IS NOT INEVITABLY LINKED TO TOXICITY" INFECTION AND IMMUNITY, AMERICAN SOCIETY FOR MICROBIOLOGY. WASHINGTON, US, vol. 65, no. 5, May 1997 (1997-05), pages 1972-1979, XP001184760 ISSN: 0019-9567 abstract</p>	
A	<p>WO 01/72337 A (GORRINGE ANDREW RICHARD ;HUDSON MICHAEL JOHN (GB); MICROBIOLOGICAL) 4 October 2001 (2001-10-04) abstract page 8, line 11 - line 35 page 10, line 1 -page 11, line 10</p>	
Y	<p>WO 00/23595 A (JUDD RALPH C ;MANNING SCOTT D (US); UNIV MONTANA (US)) 27 April 2000 (2000-04-27) cited in the application abstract page 1, line 8 - line 11 page 6, line 1 - line 4 page 6, line 26 - line 27 page 7, line 3 - line 14 page 8, line 7 - line 14 page 11, line 17 - line 24 page 33, line 9 - line 20 page 34, line 12 - line 18 page 35, paragraphs 2,4 page 36, paragraph 2 page 37, line 12 - line 24</p>	1-10, 22, 45-49, 52-81, 86

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International Application No

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C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	<p>JENNINGS M P ET AL: "Molecular analysis of a locus for the biosynthesis and phase-variable expression of the lacto-N-tetraose terminal lipopolysaccharides structure in Neisseria meningitidis"</p> <p>MOLECULAR MICROBIOLOGY, BLACKWELL SCIENTIFIC, OXFORD, GB, vol. 18, no. 4, 1995, pages 729-740, XP002084665</p> <p>ISSN: 0950-382X</p> <p>abstract</p> <p>page 730, column 1, paragraph 2</p> <p>page 731, column 1, paragraph 2 -column 2, paragraph 1</p> <p>page 733, column 1, paragraph 2 -page 734, column 1, paragraph 2</p> <p>page 737, column 1, last paragraph -column 2</p> <p>---</p>	45,88
A	<p>WO 94/08021 A (LEY PETER ANDRE V D ;NEDERLANDEN STAAT (NL); POOLMAN JAN THEUNIS () 14 April 1994 (1994-04-14)</p> <p>abstract</p> <p>page 5, line 13 -page 6, line 16</p> <p>page 6, line 31 -page 7, line 8</p> <p>---</p>	82-91
A	<p>VAN ULSEN PETER ET AL: "In vivo expression of Neisseria meningitidis proteins homologous to the Haemophilus influenzae Hap and Hia autotransporters"</p> <p>FEMS IMMUNOLOGY AND MEDICAL MICROBIOLOGY, vol. 32, no. 1, December 2001 (2001-12), pages 53-64, XP001189744</p> <p>ISSN: 0928-8244</p> <p>cited in the application</p> <p>abstract</p> <p>page 54, column 1, paragraph 2</p> <p>page 57, column 2, paragraph 3 -page 58</p> <p>page 63, column 1, last paragraph -column 2</p> <p>---</p>	
A	<p>TETTELIN H ET AL: "COMPLETE GENOME SEQUENCE OF NEISSERIA MENINGITIDIS SEROGROUP B STRAIN MC58"</p> <p>SCIENCE, AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE,, US, vol. 287, 2000, pages 1809-1815, XP000914963</p> <p>ISSN: 0036-8075</p> <p>-----</p>	

INTERNATIONAL SEARCH REPORT

International application No.
PCT/EP 03/08571

Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☒ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:

Although claims 63-65,80 are directed to a method of treatment of the human/animal body, the search has been carried out and based on the alleged effects of the compound/composition.
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

As a result of the prior review under R. 40.2(e) PCT,
no additional fees are to be refunded.

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☒ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:

1-10,45-81 (partially),11-16,22-24,27,28,82-91 (completely)
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☒ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-5,7-10,45-91 (partially),16 (completely)

Immunogenic compositions comprising FhaB and another Neisserial antigen or nucleotides thereof.
Vaccines comprising said immunogenic composition;
methods of treatment of Neisserial disease administering said vaccines.
Use of said vaccines in the preparation of a medicament for the treatment and the prevention of Neisserial infection.
Genetically engineered Neisserial strain with upregulated expression of FhaB and the other antigen.
Methods of preparation of said immunogenic composition and vaccine.
Method of preparing an immune globulin by immunising a recipient with said vaccine, immune globulin prepared by this method, pharmaceutical composition comprising this immune globulin and method of treatment or prevention of Neisserial infection comprising administering said pharmaceutical composition.

2. Claims: 1-10,45-91 (partially),17 (completely)

see invention 1 but concerning immunogenic compositions comprising NspA and another Neisserial antigen or nucleotides thereof.

3. Claims: 1-5,7-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising PilC and another Neisserial antigen or nucleotides thereof.

4. Claims: 1-10,45-91 (partially),11-15,24 (completely)

see invention 1 but concerning immunogenic compositions comprising Hsf and another Neisserial antigen or nucleotides thereof.

5. Claims: 1-10,13,45-91 (partially), 23 (completely)

see invention 1 but concerning immunogenic compositions comprising Hap and another Neisserial antigen or nucleotides thereof.

6. Claims: 1-3,5-10,45-91 (partially),34 (completely)

see invention 1 but concerning immunogenic compositions

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

comprising MafA and another Neisserial antigen or nucleotides thereof.

7. Claims: 1-3,5-10,45-91 (partially),35(completely)

see invention 1 but concerning immunogenic compositions comprising MafB and another Neisserial antigen or nucleotides thereof.

8. Claims: 1-3,5,7,9,10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising Omp26 and another Neisserial antigen or nucleotides thereof.

9. Claims: 1-5,7-10,45-91 (partially),36 (completely)

see invention 1 but concerning immunogenic compositions comprising NMB0315 and another Neisserial antigen or nucleotides thereof.

10. Claims: 1-5,7-10,45-91 (partially),40 (completely)

see invention 1 but concerning immunogenic compositions comprising NMB00995 and another Neisserial antigen or nucleotides thereof.

11. Claims: 1-5,7-10,45-91 (partially),37(completely)

see invention 1 but concerning immunogenic compositions comprising NMB1119 and another Neisserial antigen or nucleotides thereof.

12. Claims: 1-5,7-10,45-91 (partially),18 (completely)

see invention 1 but concerning immunogenic compositions comprising NadA and another Neisserial antigen or nucleotides thereof.

13. Claims: 1-3,5,7,9,10,45-91 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

see invention 1 but concerning immunogenic compositions comprising IgA protease and another Neisserial antigen or nucleotides thereof.

14. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising AspA and another Neisserial antigen or nucleotides thereof.

15. Claims: 1-5,7-10,13-15,45-91 (partially),25 (completely)

see invention 1 but concerning immunogenic compositions comprising FrpA and another Neisserial antigen or nucleotides thereof.

16. Claims: 1-5,7-10,45-91 (partially),26 (completely)

see invention 1 but concerning immunogenic compositions comprising FrpC and another Neisserial antigen or nucleotides thereof.

17. Claims: 1-3,5,7-10,45-91 (partially),36 (completely)

see invention 1 but concerning immunogenic compositions comprising FrpA/C and another Neisserial antigen or nucleotides thereof.

18. Claims: 1-3,5,7,9,10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising VapD and another Neisserial antigen or nucleotides thereof.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

19. Claims: 1-3,5-10,45-91 (partially),33 (completely)

see invention 1 but concerning immunogenic compositions comprising NM-ADPRT and another Neisserial antigen or nucleotides thereof.

20. Claims: 1-10,45-81 (partially),14,15,27,28, 82-91 (completely)

see invention 1 but concerning immunogenic compositions comprising LPS immunotype L2 and/or LPS immunotype L3 and another Neisserial antigen or nucleotides thereof.

21. Claims: 1-3,5-10,45-91 (partially),11,13-15,19 (completely)

see invention 1 but concerning immunogenic compositions comprising TbpA high and another Neisserial antigen or nucleotides thereof.

22. Claims: 1-3,5-10,45-91 (partially)12-15,20 (completely)

see invention 1 but concerning immunogenic compositions comprising TbpA low and another Neisserial antigen or nucleotides thereof.

23. Claims: 1-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising TbpB high and another Neisserial antigen or nucleotides thereof.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

24. Claims: 1-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising TbpB low and another Neisserial antigen or nucleotides thereof.

25. Claims: 1-3,5-10,45-91 (partially),39 (completely)

see invention 1 but concerning immunogenic compositions comprising LbpA and another Neisserial antigen or nucleotides thereof.

26. Claims: 1-10,13-15,45-91 (partially),21,(completely)

see invention 1 but concerning immunogenic compositions comprising LbpB and another Neisserial antigen or nucleotides thereof.

27. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising P2086 and another Neisserial antigen or nucleotides thereof.

28. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising HpuA and another Neisserial antigen or nucleotides thereof.

29. Claims: 1-3,5-10,45-91 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

see invention 1 but concerning immunogenic compositions comprising HpuB and another Neisserial antigen or nucleotides thereof.

30. Claims: 1-5,7-10,45-91 (partially), 41 (completely)

see invention 1 but concerning immunogenic compositions comprising Lipo28 and another Neisserial antigen or nucleotides thereof.

31. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising Sibp and another Neisserial antigen or nucleotides thereof.

32. Claims: 1-3,5,7-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising FpbA and another Neisserial antigen or nucleotides thereof.

33. Claims: 1-3,5,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising BfrA and another Neisserial antigen or nucleotides thereof.

34. Claims: 1-3,5,7,9,10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising BfrB and another Neisserial antigen or nucleotides thereof.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

35. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising Bcp and another Neisserial antigen or nucleotides thereof.

36. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising NMB0964 and another Neisserial antigen or nucleotides thereof.

37. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising NMB0293 and another Neisserial antigen or nucleotides thereof.

38. Claims: 1-3,5,7-10,45-91 (partially),29 (completely)

see invention 1 but concerning immunogenic compositions comprising PilQ and another Neisserial antigen or nucleotides thereof.

39. Claims: 1-10,,13-15,45-91 (partially),22 (completely)

see invention 1 but concerning immunogenic compositions comprising OMP85 and another Neisserial antigen or nucleotides thereof.

40. Claims: 1-3,5-10,45-91 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

see invention 1 but concerning immunogenic compositions comprising FhaC and another Neisserial antigen or nucleotides thereof.

41. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising TspA and another Neisserial antigen or nucleotides thereof.

42. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising TspB and another Neisserial antigen or nucleotides thereof.

43. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising TdfH and another Neisserial antigen or nucleotides thereof.

44. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising PorB and another Neisserial antigen or nucleotides thereof.

45. Claims: 1-3,5-10,45-91 (partially),42 (completely)

see invention 1 but concerning immunogenic compositions comprising HimD and another Neisserial antigen or nucleotides thereof.

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

46. Claims: 1-3,5-10,45-91 (partially),38 (completely)

see invention 1 but concerning immunogenic compositions comprising HisD and another Neisserial antigen or nucleotides thereof.

47. Claims: 1-3,5-10,45-91 (partially),32 (completely)

see invention 1 but concerning immunogenic compositions comprising GNA1870 and another Neisserial antigen or nucleotides thereof.

48. Claims: 1-3,5-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising OstA and another Neisserial antigen or nucleotides thereof.

49. Claims: 1-3,5-10,45-91 (partially),30 (completely)

see invention 1 but concerning immunogenic compositions comprising HlpA and another Neisserial antigen or nucleotides thereof.

50. Claims: 1-3,5-10,45-91 (partially),31 (completely)

see invention 1 but concerning immunogenic compositions comprising MltA and another Neisserial antigen or nucleotides thereof.

51. Claims: 1-3,5,7,9,10,45-91 (partially)

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

see invention 1 but concerning immunogenic compositions comprising NMB1124 and another Neisserial antigen or nucleotides thereof.

52. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising NMB1162 and another Neisserial antigen or nucleotides thereof.

53. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising NMB1220 and another Neisserial antigen or nucleotides thereof.

54. Claims: 1-3,5,7,9-10,45-91 (partially),43 (completely)

see invention 1 but concerning immunogenic compositions comprising NMB1313 and another Neisserial antigen or nucleotides thereof.

55. Claims: 1-3,5,7,9-10,45-91 (partially),44 (completely)

see invention 1 but concerning immunogenic compositions comprising NMB1953 and another Neisserial antigen or nucleotides thereof.

56. Claims: 1-3,5,7,9-10,45-91 (partially)

see invention 1 but concerning immunogenic compositions comprising HtrA and another Neisserial antigen or nucleotides thereof.

FURTHER INFORMATION CONTINUED FROM PCT/SA/ 210

57. Claims: 1-10,45-91 (partially)

see invention 1 but concerning immunogenic
compositions comprising PldA and another Neisserial antigen
or nucleotides thereof.

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